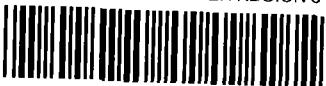


MICHIGAN DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION BUREAU
POINT SOURCE STUDIES SECTION
GROUNDWATER INVESTIGATION UNIT

US EPA RECORDS CENTER REGION 5



403990

Report of a
Hydrogeological Investigation
Conducted at
BASF WYANDOTTE CORPORATION
NORTH AND SOUTH WORKS
Wayne County
Wyandotte, Michigan
June 1, 1981 through June 30, 1981
and September 14, 1981

Summary

On June 1, 1981 we began a hydrogeological investigation at BASF Wyandotte Corporation in the City of Wyandotte. This was at the request of and under an administrative search warrant obtained by Environmental Enforcement Division. Our objective was to determine whether or not chemical wastes had been disposed of at suspected sites within the North and South Works. We collected sediment and water samples for analyses from 19 wells and 5 auger borings. Well locations and groundwater elevations are shown on the attached aerial photographs.

All shallow groundwater elevations except one (BW16) were above the Detroit River. This fact and the flow directions I could interpret from our data indicate that water infiltrating into the ground at this site discharges into the Detroit River. I believe the BW16 water elevation is due to nearby pumpage. The groundwater travels in a 5 to 20 foot thick surface layer of sand, crushed limestone, cinders and other materials. These appear to me to be largely a man-made fill above the organic peat and the clay found in many borings.

Four points, BW21 in the South Works and BW11, 12 and 33 in the North Works, showed thick deposits of clay-like "sludge" which could not have been deposited by geologic processes.

Procedures

Borings were made with a CME 55 auger using 3-1/4" ID hollow stem augers. Sediment samples were obtained with a 2" ID split tube sampler driven through the hollow stem augers. Two-inch galvanized casing and stainless steel screens were used to construct monitor wells (records attached). Most of the wells were artificially sand packed with #3 Gibraltar silica sand and the annular space was sealed with bentonite. Augers and sampling tools were washed with water between uses. Wells were developed and pumped with a piston pumping plunger operated off of a cathead with new leathers installed for each well. Wells were pumped for 30 minutes and water samples were then collected (except wells BW 3 and 4 and some phenol samples). Dual samples were collected in identical sample containers

by alternating containers every 1 to 5 pump strokes. Wells BW 3 and BW 4 were sampled by evacuating over 5 well volumes with a diaphragm pump and then sampling with stainless steel bailers. Drilling was completed on 6-25-81.

Water levels were measured using a chalked tape on 6-29-81. Wells BW 6, BW 7, BW 11 and BW 12 were sampled for phenols on 6-30-81 with a diaphragm pump. Wells in the north half of the North Works were remeasured on 9-14-81 to evaluate the affect of dewatering during the first measurements.

Sample Preservation

Samples were preserved according to present lab procedures, exceptions are noted on the sample sheets. Samples were packed in ice and delivered to appropriate labs with chain of custody records. Samples to the EPA central laboratory in Chicago were shipped air freight. Samples to the DNR Environmental Lab were transported directly by William Murphy or Elmore Eltzroth. Sample splits were provided directly to a BASF Wyandotte representative.

Site Discussion

Site #1

This is an open area just south of the polyol process facility in the North Works. Two wells, BW 3 and BW 4 and two soil borings BW 30 and BW 31 were constructed. The site generally consists of 5 to 8 feet of crushed limestone underlain by 3 to 7 feet of black "cinders" in the area of BW 4, BW 3, and BW 30. The black "cinders" in BW 4 had a noticeable sweet odor. We encountered a fine sand and silt at 11 to 14 feet. Wells BW 3 and BW 4 sample water in the black "cinder" or gravel layers. Groundwater is encountered 3 to 5 feet below surface and is moving east to the Detroit River. On June 29, 1981 the eastern edge of this site was dewatered for pipeline construction creating an artificial depression in the groundwater. Water levels and groundwater contours for September 14, 1981 show natural conditions. Wells BW 1 and BW 2 sample the same shallow groundwater upgradient from this site.

Site #2

This is the site of an old coke production and by-products area and is just east of Site #1. Two wells were installed; BW 6 and BW 7. BW 7 showed a "cinder" zone from 4 to 8 feet below surface with some odor. The well was constructed to sample this cinder zone. The water still showed black fine sediment after 30 minutes pumping and a very low production. For this reason no samples were taken during initial construction. The well was later sampled for phenols with a slower pumping diaphragm pump. BW 6 showed 3 to 5 feet of black cinders with an unusual odor lying 6 to 11 feet below the surface.

BW 6 samples waters in this cinder zone. Groundwater is encountered at about 3 feet deep and is moving northeast toward the Detroit River.

Site #3

This is an elevated site which was used for land disposal. We constructed 3 wells (BW 11, BW 12, BW 13) along the edges of the site and one boring (BW 33) in the middle of the site. BW 11 and BW 12 show 3 to 4 feet of cover material then about 12 feet of white to tan "clay-like sludge". A native soil surface appears at about 16 feet as indicated by fibrous plant material. BW 33 indicated 5 feet of various rubble and one foot of cinders overlying the "clay-like sludge". Well BW 13 did not encounter any "sludge". We attempted to sample waters in the gravel overlying the sand and silt. The yield was too low for the fine particles to clear. No samples were obtained and BW 13 was used only for water levels. BW 11 and BW 12 were constructed to sample water from the bottom of the "sludge". Water levels indicate a steep gradient from the coal pile to the northwest toward Site 3. I believe the water then moves north and eventually east to discharge in the Detroit River.

Sites #4 & #5

These are open areas on the south end of the North Works and just west of the large brine storage pond. Two wells (BW 17, BW 18) and one boring (BW 34) were installed in the site and one well was placed west of the site (BW 16).

BW 18 showed 4-1/2 feet of cinders from 3 to 7.5 feet below surface. A strong H₂S odor was observed during drilling and sampling. H₂S is common in shallow sediments in this part of the state. BW 17 encountered a thin (4") layer of white "clay-like" material at about 4 feet then generally sand and silt with an H₂S odor.

BW 34 was similar to BW 18 with 9-1/2 feet of cinders mixed with sand. A rubber fragment was found at about 9 feet and the H₂S odor was again detected. Well BW 16 was drilled as a background well. The groundwater elevations are somewhat surprising in this area. Groundwater elevations fall away to the west contrary to the general situation of an eastward flow. The elevated brine storage pond can be expected to provide some of this westward gradient. Well BW 16 has a groundwater elevation of 574.58 feet compared to an elevation of 575.08 feet for the Trenton Channel on the same date. The only probable explanation for this well being lower than river level is some type of artificial drainage with a pumping discharge. This could either be a subsurface drain to a lift station or a nearby dewatering project.

Site #6

This site is located in the southeast portion of the South Works. Two wells (BW 25 and BW 27) and one boring (BW 35) were installed.

The predominant material was a clay with gravel, possibly limestone screenings. A very resistant layer occurred at 9 feet in BW 27 and at 12 feet in BW 35. I believe this could be an old concrete layer due to the angular nature of the stones in BW 27. Water levels in BW 25, which did not penetrate this resistant layer, are 4.6 feet higher than BW 27. I believe BW 25 represents

a perched water condition. Both wells are higher than the river level of 575.16 feet and the area should discharge to the river.

Site #7

This site is at the north end of the South Works. Three wells (BW 19, 20 and 21) were installed at this site. Wells BW 19 and BW 20 show black "cinder" fill to about 4' where native clays are encountered. Wells were installed in the cinder zone. BW 21 encountered 6 feet of sand and gravel with some cinders overlying 8.5 feet of clay-like "sludge". This material varied from white to brown to grey with layers as thin as 1/2". An unusual odor was also detected. BW 21 was constructed to sample waters within this clay-like "sludge".

Water levels indicate a northeast gradient to the Detroit River.

Site #8

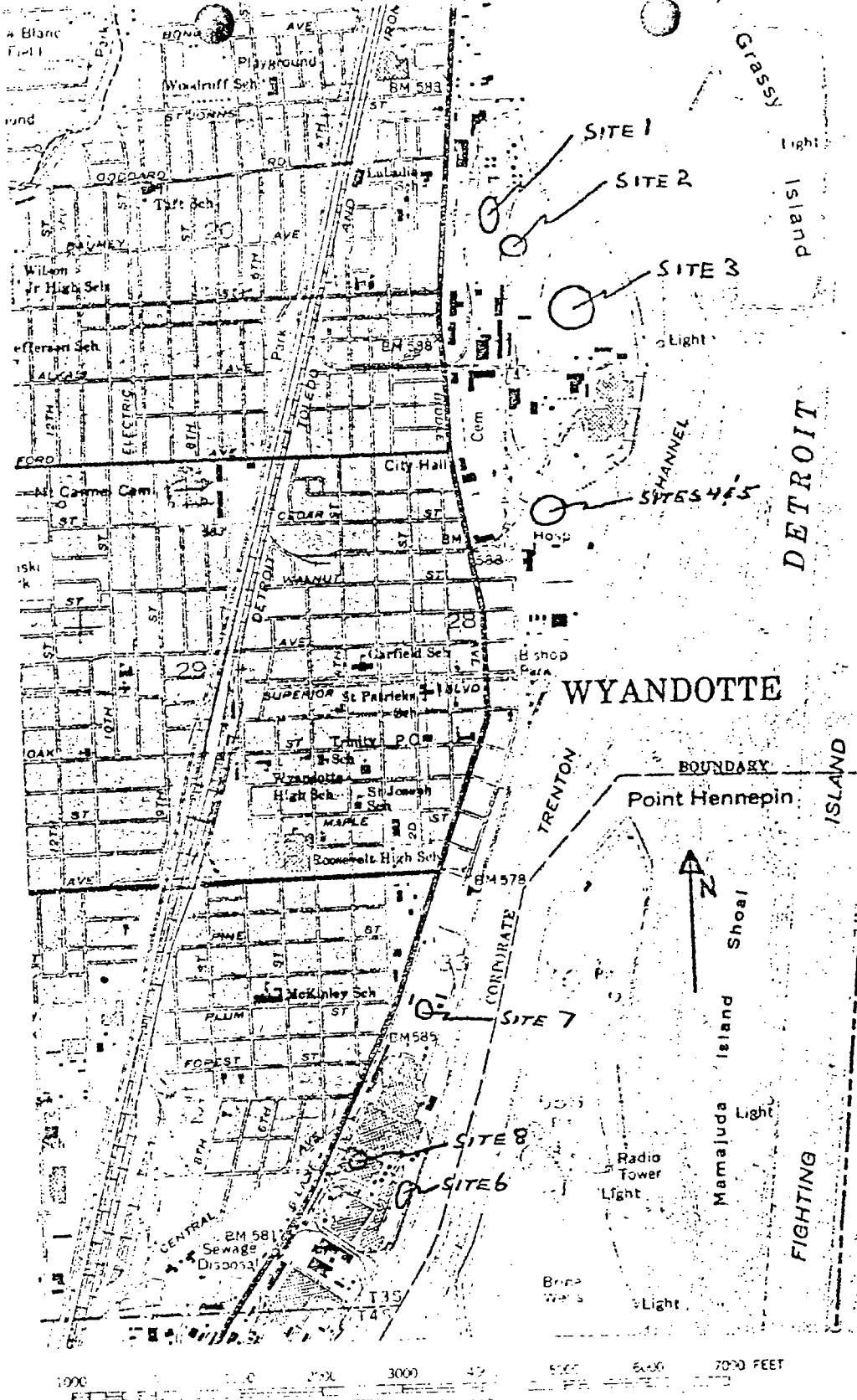
This site required several attempts to find a location where we did not have refusal at 2 feet (probably due to buried foundations). BW 23 encountered a sand with stones and some cinders to 6 feet where native clay was sampled. BW 22 was drilled as a background well. Both wells sample water from these shallow sands.

Water levels indicate a definite easterly gradient although we do not have enough data points to indicate a precise direction.

Drilling & Sampling by: Elmore Eltzroth, Project Geologist
Charles Ingalls, Driller
Jerry Parish, Driller's Assistant

Report Prepared by: Elmore Eltzroth, Project Geologist

Elmore E. Eltzroth



BASF Wyandotte Corporation
Site Locations

Table 1 BASF Wyandotte Corporation

Well Number	Elevations in Feet								Soil Borings Number	Ground Elevation		
	Elevation		Groundwater		Elevations		Depth to Water 6-29-81	Elev. 6-29-81				
	Ground	Top of Casting	Depth to Water	Elev.	Depth to Water	Elev.						
BW 1	584.0	586.56	6.77	579.79	6.35	580.21			Hand Auger			
BW 2	583.8	587.39	8.13	579.26	7.77	579.62			Site	588.3		
BW 3	581.4	581.92	3.50	578.42	2.91	579.01			BW 12 Sed	586.4		
BW 4	583.5	585.55	7.65	577.90	6.48	579.07			BW 30	583.6		
BW 6	580.9	583.66	5.41	578.25	5.13	578.53			BW 31	581.4		
BW 7	581.2	583.11	4.62	578.49	4.48	578.63			BW 33	588.9		
BW 11	588.9	591.07	10.98	580.09	10.57	580.50			BW 34	579.7		
BW 12	586.6	588.28	6.99	581.29	6.29	581.99			BW 35	582.8		
BW 13	586.9	589.65	7.00	582.65	6.49	583.16						
BW 16	576.2	579.60	5.02	574.58								
BW 17	579.6	581.40	6.02	575.38								
BW 18	579.2	581.86	5.59	576.27								
BW 19	579.9	582.21	4.64	577.57								
BW 20	578.3	580.12	2.85	577.27								
BW 21	579.0	581.38	4.01	577.37								
BW 22	580.8	582.12	3.46	578.66								
BW 23	579.3	580.54	3.75	576.79								
BW 25	582.9	585.79	5.02	580.77								
BW 27	582.4	585.77	9.66	576.11								

Elevations surveyed by Engineering Division, Mich. D.N.R. on USC & GS Datum
 Water levels measured by Elmore Eltzroth
 Detroit River levels from N.O.A.A. Wyandotte gage at end of Oak Street

6-29-81 573.66 I.G.L.D. + 1.42 = 575.08 USC & GS
 9-14-81 573.88 I.G.L.D. + 1.42 = 575.30 USC & GS

GROUNDRATE INVESTIGATION UNIT

EED

TEST WELL RECORD

WELL NO.

RW 1

PROJECT: BASE WYANDOTTE

PERMIT NO.

914-812-482

LOCATION
COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

RANGE

14 4 4

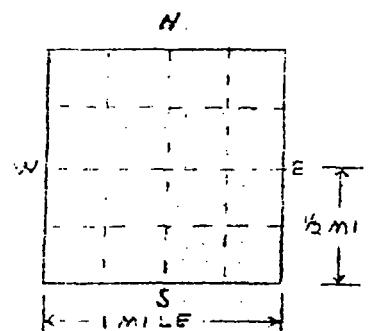
T3S

NS

R11E

LOCATION IN SECTION
MARK WITH "X"

SKETCH MAP OF LOCATION [NO SCALE]



SEE SITE MAP

PROPERTY OWNER
ADDRESS
BASE WYANDOTTEWELL DEPTH (COMPLETED) DATE OF COMPLETION
8-6 6-17-81
DRILLING METHOD(S) DEPTH(S)

HSA

CASING &
DIAMETER

LENGTH

HEIGHT
ABOVE SURFACE

2 IN

9 FT

34 FT

IN.

FT.

TYPE
WEIGHT

SCREEN:

TYPE SS WW DIAM. 2"

SLOT/GAUGE 7-10? LENGTH 2"

SET BETWEEN 6.6 FT. AND 8.6 FT.

WATER LEVELS

FIRST NOTED AT 5 FT BELOW SURFACE
6-29-81 AFTER COMPLETION 6.77 FT BELOW SURFACE OR CASING TOP

SURFACE ELEVATION 9-14-81 6.35

6RD 584.D T.O.C. 585-5
SEALING METHOD
20 lb. Volclay

CREWINGALLS, PARISH, ELIZABETH

RECORD BY Elmore E. Elligott
DATE
REMARKS

SS

SAND PACKED (SACK)

PLUGGING AND ABANDONMENT METHOD

DATE
CREW
RECORD BY

WELL NO.
BW2

TEST WELL RECORD

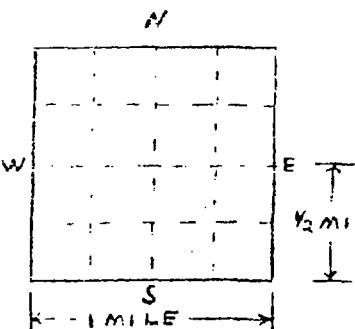
PERMIT NO.
914-812-482

LOCATION OF
COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

LOCATION IN SECTION
(MARK WITH "X")



TOWNSHIP NAME

FRACTION

4 4 4

SECTION NO.

TOWN

T3S

MS

RANGE

R11E

SKETCH MAP OF LOCATION (NO SCALE)

See SITE MAP

N

PROPERTY OWNER BASF WYANDOTTE
ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

6.9

6-25-81

DRILLING METHOD(S)

DEPTH(S)

HSA

CASING &
DIAMETER

LENGTH

HEIGHT
ABOVE SURFACE

2 IN

8.5FT

1 3/4 FT

IN.

PT.

TYPE GALV

SCREEN:

TYPE SS LOW DIAM. 2"

SLOT/GAUGE

LENGTH 2'

SET BETWEEN 4.9 FT. AND 6.9 FT.

WATER LEVELS

FIRST NOTED AT FT BELOW SURFACE

6-29-81 AFTER COMPLETION 6.13 FT BELOW SURFACE (OR CASING TOP)

SURFACE ELEVATION 9-14-81 - 7.77

GRD 583.8 T.D.C. 587.39
SCALING METHOD

5" powdered bentonite

CREW IN BALLS, PARISH, ELIZABETH

RECORD BY Elmer S. Elliott

DATE

REMARKS

SAND PACKED - 1 1/2 SACKS

PLUGGING AND ABANDONMENT METHOD

DATE
CREW
RECORD BY

ENGLISH LINGUAL TEST WELLS
GAS/WATER INVESTIGATION UNIT
TEST WELL RECORD

PROTECT: BASF WYANDOTTE

PERMIT NO.
914-812-418

WELL NO.
BW 3

LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

RANGE

T3S N1S

R1E

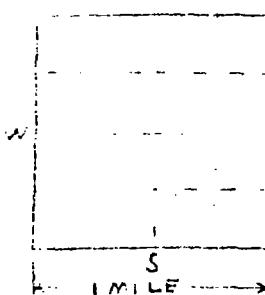
LOCATION IN SECTION
(MARK WITH "X")

SKETCH MAP OF LOCATION (NO SCALE)

N

SEE SITE MAP

N



E
1/2 MI
S
1 MILE

WELL DEPTH (COMPLETED) DATE OF COMPLETION

10.5

6-2-81

DRILLING METHOD(S)

DEPTH(S)

HSA

CASING &

DIAMETER

LENGTH

16

HEIGHT

10.5 FT

2 IN

IN

9 FT

FT.

TYPE

SRL

WEIGHT

SCREEN:

TYPE SS WW

DIAM. 2"

SLOT/GAUGE 10(?)

LENGTH 2'

SET BETWEEN 8.5 FT. AND 10.5 FT.

WATER LEVEL

FIRST NOTED AT

6-29-81

FT BELOW SURFACE

AFTER COMPLETION 3.50 FT BELOW

SURFACE OR CASING TOP

X

SURFACE ELEVATION

2.91

4-14-81

6-2-81

SEALING METHOD

1/2 pds Volclay

CREWINGALLS, PARISH, ETC 2000

RECORDED BY

Elmore E. Etzroth

DATE

REMARKS

SAMPLE TYPE

AF - AUBER FLIGHT

SS - SPLIT SPOON

Sand packed w/ 1/2
sacks silica sand

Pumping plunger stuck in
well had to withdraw
casing, remove plunger and
push casing back in.

6-1-81

30 min dev w/ pumping plu-

6-2-81

backwash w/ rig water

dev 19 min w/ pump, plunger

PLUGGING AND ABANDONMENT METHOD

DATE

CREW

RECORDED BY

ENTRANCE TO THE
GROUNDWATER INVESTIGATION UNIT

EED

TEST WELL RECORD

WELL NO.

BW 4

PROJECT: BASF LYANDOTTE

P/N: - NO.
914-812-48

LOCATION

COUNTY

WAYNE CO

STREET ADDRESS AND CITY OR WELL LOCATION

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

RANGE

T3S N. R1E

BASF LYANDOTTE

LOCATION IN SECTION
[MARK WITH "X"]

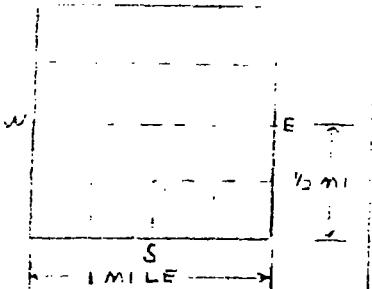
SKETCH MAP OF LOCATION TWO SITES

N

SEE SITE MAP

N

↑



DEPTH ELEV. TO SEA LEVEL	THICKNESS OF LAYER	DESCRIPTION	SAMPLE IDENT. CAR. NO.	TYPE
0 4		LIMESTONE fines and stones. to 1" diam, grey	AF	
4 5	5	LS, as above	SS	
5 9		"Cinders", black	AF	
9 10		"Cinders" black	SS	
10 11		3" LS, Sand, fine, grey 3" "cinders" black Sweet smell	SS	
11 12	7	1" LS mud, grey 1" cinders black Sweet odor	SS	

PROPERTY OWNER
ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

9

6-2-81

DRILLING METHOD(S)

HSA

12

CASING:
DIAMETER LENGTH HEIGHT
2 IN 9 FT 1 1/2 FT
IN -- FT. TYPE GAL
WEIGHTSCREEN:
TYPE SS 460 DIAM. 2"
SLOT/GAUGE 7-10.2 LENGTH 2'
SET BETWEEN 7 FT. AND 9 FT.WATER LEVELS
FIRST NOTED AT 6-29-81 FT BELOW SURFACE
AFTER COMPLETION 7.65 FT BELOW
SURFACE OR CASING TOP X
WATER LEVEL ON 6-4-81 6.48 9-14-81GIRD 583.5 TDC 585.55
SEALING METHOD
1/3 SACK DRY BENTONITE

CREW IN HALLS, PARISH, ENTERPRISE

RECORD BY Phineas E. Ettinger
DATE
REMARKS
SAMPLE AF = AUGER FLIGHT
TYPE SS = SPLIT SPADONSAND PACKED - 1 1/2 SCS SILICA SAND
2 shovels cuttings
1/3 sack dry bentonite

PLUGGING AND ABANDONMENT METHOD

DATE
CREW
REMARKS

ENVIRONMENTAL SERVICES DIVISION
GROUNDWATER INVESTIGATION UNIT
TEST WELL RECORD

PROJECT: BASEF WYANDOTTE

POLK T NO.
914-812-482

BW 7

LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

SECTION NO.

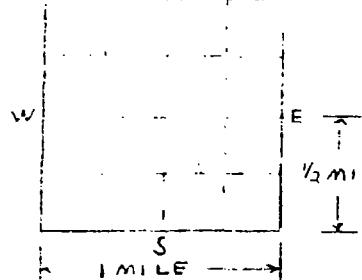
TOWN

RANGE

T 3 S RS 1 R 1 E

LOCATION IN SECTION
[MAPA WITH "X"]

N



SKETCH MAP OF LOCATION [MAPA WITH "X"]

SEE SITE MAP

N

PROPERTY OWNER BASEF WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

9.1

6-16-81

DRILLING METHOD(S)

HSA

CASING: DIAMETER LENGTH

2 IN. TO 9 FT. DRAFF 19 FT

— IN. TO — FT. DEPTH TYPE GALV WEIGHT

SCREEN:

TYPE SS WW DIAM. 2"

SLOT/INCH 10 LENGTH 2'

SET BETWEEN 7.1 FT. AND 9.1 FT.

WATER LEVELS

FIRST NOTED AT 3 FT BELOW SURFACE

6-29-81 AFTER COMPLETION 4.62 FT BELOW SURFACE OR CASING TOP

SURFACE ELEVATION 9-14-81 4.48

GRD 581.2 T.O.C. 583.11

SEALING METHOD 20 lb Volclay

CREWING GALLS, PARISH, ELTROT

RECORD BY Elmore E Elfrath

DATE
REMARKS

SAND PACK - 1 SACK

WATER STILL BLACK

AFTER 30 min.

DEPTH FROM	DEPTH TO	DESCRIPTION	SAMPLE IDENTIFICATION NO.	TYPE
0	4	Sand & Stones, dark brown to black, wet at 3' (12" recovery)		AF
4	7	"cindery" material, black some odor	BW7A	SS
7	9	(16" recovery) 6" Silt & Clay, gray to brown, some stones 4" cinders, black 6" Silt & Clay, dark brown 1" of fibrous material in top		SS
9	11	(16" recovery) Sand, fine sand & silt, dark brown to brown compact	BW7B	SS

PLUGGING AND ABANDONMENT METHOD

DATE
CREW
RECORDED BY

TEST WELL RECORD

WELL NO.

BLW 6

PROJECT: BASF WYANDOTTE

PERMIT NO.

914-812-482

LOCATION

COUNTY

WAYNE

TOWNSHIP NAME

FRACTION

1/4

SECTION NO.

TOWN

RANGE

STREET ADDRESS AND CITY OF WELL LOCATION

T3S NS

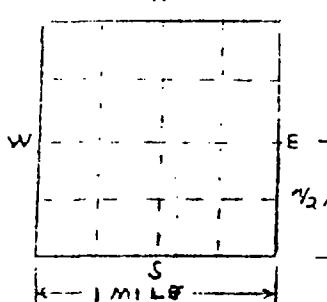
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LOCATION IN SECTION
(MARK WITH "X")

SKETCH MAP OF LOCATION [NO SCALE]

SEE SITE MAP

N



WELL DEPTH (COMPLETED) DATE OF COMPLETION

12.4

6-11-81

DRILLING METHOD(S)

DEPTH(S)

HSA

CASING &
DIAMETER

2" IN.

LENGTH

133 FT

HEIGHT
ABOVE SURFACE

12ab FT

IN.

PT.

TYPE

6-GAL

SCREEN:

TYPE SS WW

DIAM. 2"

SLOT/GAUZE 7-10²

LENGTH 2'

SET BETWEEN 10.4 FT. AND 12.4 FT.

WATER LEVELS

FIRST NOTED AT 6-29-81 FT BELOW SURFACE
AFTER COMPLETION 5-41 FT BELOW SURFACE OR CASING TOP

SURFACE ELEVATION - 9-14-81 5.13

GRD 580.9 T.D.C. 583.66

SEALING METHOD

20lb Volclay

CREWING ALLS, PARISH, ELIZROTH

RECORD BY Elmer E. Elzroth

DATE

REMARKS

SAND PACKED - 1 2/3 sacks

DEPTH FROM	TO	THICKNESS OF STRATUM	DESCRIPTION	SAMPLE IDENTIFICATION NO. TYPE
0	2	2	RUBBLE.	AF
2	5	3	Sand & SILT, black, compact 1 ft recovery	AF
5	7	2	8" SILT & SAND, grey with some brown, compact	BLWBSS
7	10	3	4" black "cinder" material (1ft recovery)	BLWBSS
		6"	cindery, black	
		6"	asphaltic material	
			black, hard, odor	
10	12	2	(16" recovery)	SS
		6"	cinders, black	
		2"	hard material, white	
		8"	sand, fine, brown moderately compact	
12	13	1	(RUGERED) no recovery	

PLUGGING AND ABANDONMENT METHOD

DATE
CREW
RECORD BY

U.S. FEDERAL LAND SURVEY
GROUNDWATER INVESTIGATION UNIT

TEST WELL RECORD

BIN 11

PROJECT: BASF WYANDOTTE

PAGE NO.
914-812-482

LOCATION COUNTY WYANE (STREET ADDRESS AND CITY OF WELL LOCATION)	TOWNSHIP NAME SECTION NO.	FRACTION 4 4 8	SECTION NO. TOWN RANGE T3S vs R1E E1N
LOCATION IN SECTION (MARK WITH "X") N W E S 1 MILE	SKETCH MAP OF LOCATION (NO'S ARE SEE SITE MAP N E S W 1/2 MI 1 1 MILE)	ADDRESS	
DEPTH FT TO ELEVATION	DESCRIPTION	SAMPLE IDENTIFICATION NO. TYPE	WELL DEPTH (COMPLETED) DATE OF COMPLETION 15.5 6-16-81 DRILLING METHOD(S) HSA 17 CASING & DIAMETER 2 IN. TO 15.5 FT. DEPTH IN. TO FT. DEPTH TYPE GALV WEIGHT
7 4	4. SAND & CLAY, dark grey (20" recovery)	AF	HEIGHT ABOVE SURFACE 2.0 FT
7 7	CLAYEY SLUDGE, color varies from grey at top to light brown in bottom (24" recovery)	SS	SET BETWEEN 13.5 FT. AND 15.5 FT.
7 10	clayey material, tan, with several streaks of black & brown (24" recovery)	SS	WATER LEVELS FIRST NOTED AT 11 FT BELOW SURFACE 6-29-81
12	clayey material, tan, wct at 11'	SS	AFTER COMPLETION 10.98 FT BELOW SURFACE OR CASING TOP SURFACE ELEVATION 9-14-81 10.57
14	clayey material, tan, (20" recovery)	SS	CREW IN BALLS, PARISH, ELIZABETH
17	10" clayey material, white 10" black with fibrous material - peat, peat, firm	SS	RECD BY <i>Emmett E. Ettinger</i> DATE REMARKS
			SAND PACKED - 2 SACKS
			PLUGGING AND ABANDONMENT METHOD
			DATE CREW F-14-81

TEST WELLS

BW 12

BASE WYANDOTTE

911-812-418

LOCATION

COUNTY

WAYNE
STREET ADDRESS AND CITY OF WELL LOCATIONLOCATION IN SECTION
[MARK WITH "X"]

SKETCH MAP OF LOCATION NO.

N

E

W

S

E - 1 MILE

SEE SITE MAP

N

E

S

W

WELL DEPTH (COMPLETED) DATE OF COMPLETION

12

6-9-81

DRILLING METHOD(S)

DEPTH(?)

HSP

20

CASED
DIAMETER

LENGTH

HEIGHT
ABOVE SURFACE

2 IN

13' 3"

10-6 FT

IN

FT.

TYPE GALV.

SCREEN:

WEIGHT

TYPE SS WW DIAM. 2"

SLOT SIZE 7-10(?) LENGTH 2'

SET BETWEEN 10 FT AND 12 FT.

WATER LEVEL

FIRST NOTED AT 10 FT BELOW SURFACE

6-29-81

AFTER COMPLETION 6.99 FT BELOW

SURFACE

CREASING TOP X

4-14-81 6.29

LIAISON - HAZARD

6RD 586.6 TOC 588.28

SEALING METHOD

CREW MEMBERS, PARISH, DLTZ

RECORDED BY Elmore Etgyro

DATE

REMARKS

PLUGGED ORIGINAL HOLE

REDRILLED ABOUT 11 FEET

NORTH TO PLACE WELL

SAND PACKED WELL

PROFILE

PLUGGED & ABANDONMENT METHOD

BW 12 BORING - NATURAL
MATERIAL + 1 PAIL VOLCLAS
PELLETSDATE
CREW
FOLDED BY

GROUNDWATER INVESTIGATION INIT
TEST WELL RECORD

PROJECT: BASE WYANDOTTE

WELL NO.

B1013

PERMIT NO.

914-812-4

LOCATION

COUNTY

WAYNE

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

RANGE

STREET ADDRESS AND CITY OF WELL LOCATION

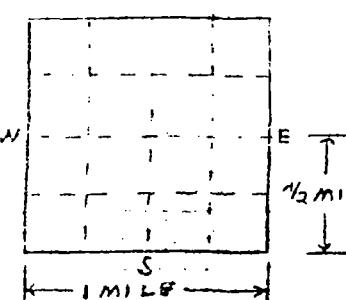
1/4 1/4 1/4

T35 N1S

R11E

LOCATION IN SECTION

[MARK WITH "X"]



SKETCH MAP OF LOCATION [NO SCALE]

SEE SITE MAP

N

WELL DEPTH (COMPLETED) DATE OF COMPLETION

8.4 ft.

6-10-81

DRILLING METHOD(S)

HSA

CASING:

DIAMETER

LENGTH

HEIGHT

2 IN

9 FT

1 3/4 FT

IN.

PT.

TYPE 6 GAL

WEIGHT

SCREEN:

TYPE SS WW

DIAM. 2"

SLOT/GAUGE 7-10?

LENGTH 2'

SET BETWEEN 6.4 FT. AND 8.4 FT.

WATER LEVELS

FIRST NOTED AT FT BELOW SURFACE

6-29-81

AFTER COMPLETION 7.00 FT BELOW

SURFACE OR CASING TOP

SURFACE ELEVATION 9-14-81 6.49

GRD 586.9 T.O.G. 589.65

SEALING METHOD

CREW IN GALLS, PARISH, ELT2R

RECORD BY Elmore E. Elgrote

DATE

REMARKS

SAND PACKED - 2 bags 9 to 4 ft

LOW YIELD - WATER STILL

GREY AFTER 30 MIN. PUMPING

PLUGGING AND ABANDONMENT METHOD

DATE
CREW
RECORD BY

TEST WELL RECORD

WELL NO.
BW 16

PROJECT: BASF LYANDOTTE

FORM T NO.

914-812-48

LOCATION

COUNTY

LYDNE

STREET ADDRESS AND CITY OR WELL LOCATION

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

RANGE

4 4 5

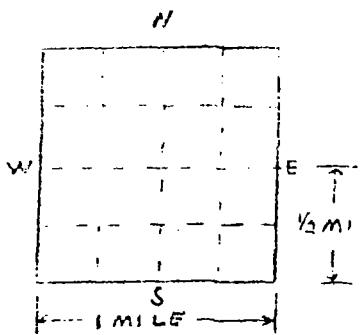
T3S

R1E

LOCATION IN SECTION
(AREA WITH "X")

SKETCH MAP OF LOCATION [NO SCALE]

SEE SITE MAP



N ↑

WELL DEPTH (COMPLETED) DATE OF COMPLETION

8.2

6-18-81
DEPTH(S)

DRILLING METHOD(S)

HSA.

CASING'S
DIAMETER

2IN

LENGTH

9.5FT

HEIGHT
1-33 FT

IN

FT.

TYPE 6gal.
WEIGHT

SCREEN: SS WW

DIAM. 2"

SLOT SIZE 7

LENGTH 2'

SET BETWEEN 6.2 FT. AND 8.3 FT.

WATER LEVELS

FIRST NOTED AT 5 FT BELOW SURFACE
6-29-81
AFTER COMPLETION 5.02 FT BELOW
SURFACE OR CASING TOP

SURFACE ELEVATION

GRD 576.2 TDL 599.60
SEALING METHOD

2016 VOLCLAY

CREWINGALLS, PARISH, ELIZROD

RECORD BY Elmore E. Elgroth
DATE
REMARKS

SAND PACKED - 1 SACK

PLUGGING AND ABANDONMENT METHOD

DATE
CREW
RECORD BY

GEOLOGIC SURVEY
GASOLINE WATER INVESTIGATION UNIT

TEST WELL RECORD

EEI

WELL NO.
Blw 17

PROJECT: BASE WYANDOTTE

PAGE NO.
914-812-48LOCATION
COUNTY

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

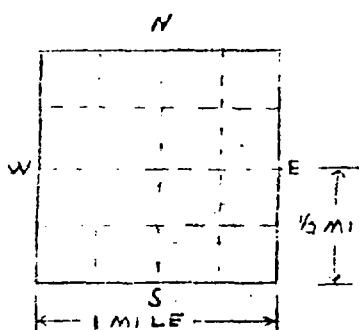
RANGE

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

LOCATION IN SECTION
(MARK WITH "X")

SKETCH MAP OF LOCATION (NO SCALE)



SEE SITE MAP

N

S



WELL DEPTH (COMPLETED) DATE OF COMPLETION

9.1

DRILLING METHOD(S)

6-18-81

DEPTH(S)

HSA

CASING DIAMETER

LENGTH

HEIGHT

2 IN

9 FT

1 FT ABOVE SURFACE

IN

FT

TYPE 421V

SCREEN:

TYPE: SS WLD DIAM: 2"

SLOT/GAP: 10 LENGTH 2'

SET BETWEEN 7.1 FT. AND 9.1 FT.

WATER LEVELS

FIRST NOTED AT FT BELOW SURFACE

6-29-81

AFTER COMPLETION 6.03 FT BELOW SURFACE OR CASING TOP

SURFACE ELEVATION

GRD 579.6 T.O.L. 581.40

SEALING METHOD

20 LB VOLCLAY

CREW, IN BALLS, PARISH, STATE/PROV

RECORD BY Diane S. Elfrink

DATE

REMARKS

SAND PACKED - 1 SACK

SS

PLUGGING AND ABANDONMENT METHOD

DATE
CREW
RECORD BY

DEPTH FROM TO FEET	THICKNESS OF SAMPLE	DESCRIPTION	SAMPLE IDENTIFICATION NO.	TYPE
0 3	3	Sand & gravel, brown (24" recovery)	AF	
3 5	0.3	4" clayey material, white 16" sand, medium & gravel, grey, compact (10" recovery)	BW17A SS	
5 7		4" Sand & gravel, grey 6" sand & silt, black (14" recovery)	SS	
7 9		4" wood 6-7 10" sand, fine, and silt grey with some brown and black, compact, H ₂ S odour (16" recovery)	SS	
9 11		6" sand & clay, grey to black 1-10" clay grey	SS	

TEST WELL RECORD

WELL NO.
RW 18

PROJECT: BASE WYANDOTTE

PERMIT NO.
914-812-482LOCATION
COUNTRY

WAYNE

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

RANGE

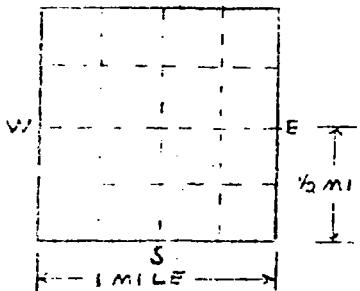
STATE ADDRESS AND CITY OF WELL LOCATION

1/4 4 4

LOCATION IN SECTION
[MARK WITH "X"]

SKETCH MAP OF LOCATION TWO SCALE:

SEE SITE MAP

N
↑PROPERTY OWNER
ADDRESS

T3S R1E E1/4

WELL DEPTH (COMPLETED) DATE OF COMPLETION

8.4 FT.

6-17-81

DRILLING METHOD(S)

DEPTH(S)

HSA

CASING
DIAMETER
2 IN
INLENGTH
9 FT
FT.

WEIGHT

1 ABOVE SURFACE

2.6 FT

TYPE GALV

WEIGHT

SCREEN:

TYPE SS WW DIAM. 2"

SLOT/GAUGE 10 LENGTH 2'

SET BETWEEN 6.4 FT. AND 8.4 FT.

WATER LEVELS

FIRST NOTED AT 6-21-81 FT BELOW SURFACE

AFTER COMPLETION 5.5 FT BELOW SURFACE OR CASING TOP

SURFACE ELEVATION

6RD 579.2 T.O.C. 581.86

SEALING METHOD

20 16 Volclay

CREWINGALLS, PARISH, SE 1/4 2007

RECORD BY Elmore E. Elliott

DATE
REMARKS

SAND PACKED - 1 SACK

PLUGGING AND ABANDONMENT METHOD

DATE
CREW
RECORD BY

ENVIRONMENTAL SERVICES DIVISION
GROUNDWATER INVESTIGATION UNIT
TEST WELL RECORD

WELL NO.

BW 19

PROJECT: BASF WYANDOTTE

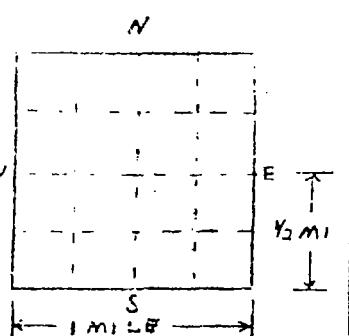
PERMIT NO.

914-812-483

LOCATION
COUNTY

WYANDOTTE
STREET ADDRESS AND CITY OF WELL - LOCATION

LOCATION IN SECTION
(MARK WITH "X")



SKETCH MAP OF LOCATION [NO SCALE]

SEE SITE MAP

FRACTION
1/4 1/4 1/4

SECTION NO.

TOWN

RANGE

T3S

NS

R 11E

PROPERTY OWNER
BASF WYANDOTTE
ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

4.1

6-24-81

DRILLING METHOD(S)

DEPTH(S)

HSA

CASING
DIAMETER LENGTH HEIGHT
2 IN 4.25 FT 1/2 FT
IN. FT. TYPE
WEIGHT

SCREEN:

TYPE SS LOW DIAM. 2"

SLOT/SPACER 10 FT LENGTH 2'

SET BETWEEN 2.1 FT. AND 4.1 FT.

WATER LEVELS

FIRST NOTED AT 6-29-81 FT BELOW SURFACE
AFTER COMPLETION 4.64 FT BELOW
SURFACE OR CASING TOP

SURFACE ELEVATION

GRD 579.9 TD C 582.21
SEALING METHOD

6" dry bentonite

CREW IN BALLS, PARISH, ELIZABETH

RECORD BY Elmore E. Elzroth
DATE
REMARKS

Sand packed - 1 1/4 sacks

PLUGGING AND ABANDONMENT METHOD

DATE
CREW
RECORD BY

ENVIRONMENTAL SERVICES DIVISION
GROUNDWATER INVESTIGATION UNIT

TEST WELL RECORD

WELL NO.

BW 20

POLKIT NO.

914-812-481

PROJECT: BASE WYANDOTTE

LOCATION

COUNTY

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

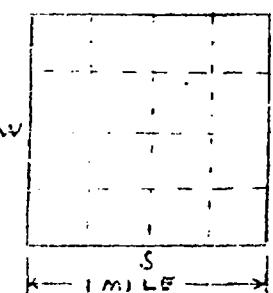
RANGE

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

LOCATION IN SECTION
(MARK WITH "X")

N



SKETCH MAP OF LOCATION [NO SCALE]

SEE SITE MAPS

N

PROPERTY OWNER BASE WYANDOTTE
ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION
4.5 6-24-81
DRILLING METHOD(S) DEPTH(S)

HSA

CASING: LENGTH HEIGHT ABOVE SURFACE
DIAMETER 2IN 4.25FT 17 FT
TYPE GALV WEIGHT

SCREEN: DIAM. 2"
TYPE SS WW SLOT/GAUGE 10 LENGTH 2'
SET BETWEEN 2.5 FT. AND 4.5 FT.

WATER LEVELS FIRST NOTED AT FT BELOW SURFACE
6-24-81 AFTER COMPLETION 2.85 FT BELOW
SURFACE OR CASING TOP

SURFACE ELEVATION GRD 578.3 T.D.C. 580.1
SEALING METHOD 3" dry bentonite

CREW INGALLS, PARISH, ELIZARD

RECORD BY Elmore E. Elzroff
DATE
REMARKS

SAND PACKED - $\frac{1}{4}$ SACK

DEPTH FROM	THICKNESS TO STRATUM	DESCRIPTION	SAMPLE IDENTIFICATION NO.	TYPE
0. 3		Sand, clay & stones, black (20" recovery)		AF
3. 5		8" "cindery" dark brown to black $\frac{1}{2}'' \times 2''$ stone, vitreous black, conchoidal fractures	BW20A SS (upper 10" only)	
4. 4		2" stone, vitreous, lt grey hardness > 5 (slag?)		
	9"	clay, brown, stiff		
3. 3	1"	vegetation (16" recovery)		
5. 5	7"	16" clay, grey and brown, plastic with 1" layer of peat	SS	

PLUGGING AND ABANDONMENT METHOD

DATE
CREW
RECORD BY

ENVIRONMENTAL SERVICES UNIT
GROUNDWATER INVESTIGATION UNIT

TEST WELL RECORD

WELL NO.
BW 21

PROJECT: BASF WYANDOTTE

PERMIT NO.
914-812-483

LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

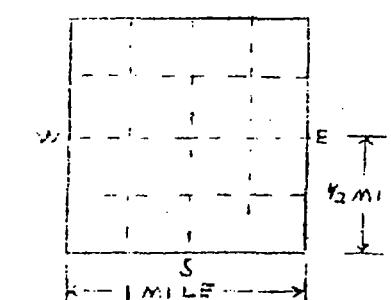
RANGE

T 35 N

R 11 E

LOCATION IN SECTION
(MARK WITH "X")

SKETCH MAP OF LOCATION (NO SCALE)



SEE SITE MAPS

N
↑PROPERTY OWNER BASF WYANDOTTE
ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

13.6

6-24-81

DRILLING METHOD(S)

DEPTH(S)

HSA

CASING &
DIAMETER

LENGTH

WEIGHT

2 IN

14 FT

124 FT

IN.

FT.

TYPE GALV

IN.

WEIGHT

%

SCREEN:

TYPE SS WW

DIAM. 2"

SLOT/GAUGE 10

LENGTH 2'

SET BETWEEN 11.6 FT. AND 13.6 FT.

WATER LEVELS

FIRST NOTED AT 6-24-81 FT. BELOW SURFACE
AFTER COMPLETION 4.01 FT BELOW SURFACE (OR CASING TOP)

SURFACE ELEVATION

6 GRD 579.0 T.D.L. 581.38
SCALING METHOD

20 lbs volatile pellets

CREWING ALLS, PARISH, ELIZABETH

RECORD BY Elmore S. Edgerton
DATE
REMARKS

SAND PACKED - 3½ sacks

DEPTH FROM TO	DESCRIPTION	SAMPLE IDENTIFICATION NO.	TYPE
0 1	Sand & gravel (LIMESTONE), grey	AF	
1 3	Sand & gravel, brown (8" recovery)	AF	
3 5	6" cindery, black	SS	
5 7	2" sand, fine & gravel, tan (16" recovery)	BW21A	SS
	8" loose brown material		
	8" white to grey "sludge" odor		
7 9.5	(24" recovery)		
	16" clayey "sludge", light brown, soft	BW21B	SS Bottom 16"
	8" clayey "sludge", tan to white, soft		
8.5 8.5	odor		
9.5 12.5	(20" recovery - soft)		
	20" "sludge", brown to tan top 4" lighter, softer with ½" varves in bottom of sample		
12.5 15	(20" recovery)		
	12" "sludge" grey	BW21C	SS bottom 8"
	6" clayey material, reddish brown		
	2" organic, black - odor		

PLUGGING AND ABANDONMENT METHOD

DATE
CREW
RECORD BY

GROUNDWATER INVESTIGATION UNIT
TEST WELL RECORD

PROJECT: BASE WYANDOTTE

WELL NO.
RW 22

PERMIT NO.
914-812-482

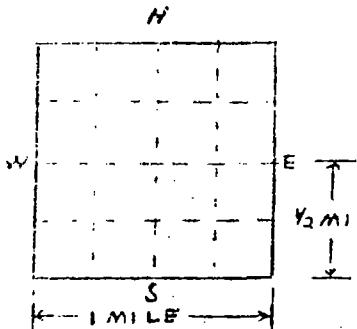
LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

LOCATION IN SECTION
[MARK WITH "X"]



TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

RANGE

T 35 NS R 11 E

SKETCH MAP OF LOCATION [NO SCALE]
SEE SITE MAP

N



PROPERTY OWNER

BASE WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

5

6-25-81

DRILLING METHOD(S)

DEPTH(S)

HSA

CASING
DIAMETER

LENGTH
IN.

HEIGHT
1.2 FT

7

IN.

TYPE
HEAVY

SCREEN:

DIAM. 2"

TYPE SS WW

SLOT/GAUGE 7-10

LENGTH 2'

SET BETWEEN 3 FT. AND 5 FT.

WATER LEVELS

FIRST NOTED AT FT BELOW SURFACE

6-24-81

AFTER COMPLETION 3.4 FT BELOW SURFACE OR CASING TOP

SURFACE ELEVATION

61RD 580.8 TOC 582.1
SEALING METHOD

20 lb. volclay pellets

CREW IN LAWS, PARISH, ELTRROT

RECORD BY Ethene S. Elliott

DATE

REMARKS

sand packed - 1 1/2 sacks
may have some sack paper
in hole.

PLUGGING AND ABANDONMENT METHOD

DATE
CREW
RECORD BY

TEUT WEL. REC'D.

WELL NO.
BW 23

PROJECT: BASF WYANDOTTE

PLATE NO.
914-812-482

LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL - LOCATION

LOCATION IN SECTION
(MARK WITH "X")

SKETCH MAP OF LOCATION TWO

FRACTION

SECTION NO.

TOWN

RANGE

1

4

*

T3S NS 12 1/2 E

PROPERTY OWNER

BASF WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

563

6-22-81

DRILLING METHOD(S)

HSA

DEPTH(S)

CASING &
DIAMETER

LENGTH

HEIGHT
ABOVE SURFACE

2 IN.

4.5 FT

1 1/2 FT

IN

FT.

TYPE GRAY

SCREEN:

TYPE SS WW

DIAM. 2"

SLOT SIZE 1/10

LENGTH 2'

SET BETWEEN 3.3 FT. AND 5.3 FT.

WATER LEVELS

FIRST NOTED AT 6-29-81 FT BELOW SURFACE

AFTER COMPLETION 3.75 FT BELOW SURFACE OR CASING TOP

SURFACE ELEVATION

GRD. 579.3 T.D.C. 580.5
SEALING METHOD

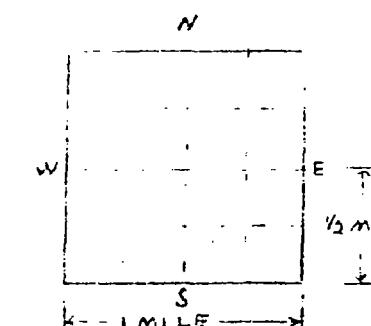
6" (1/4 bag) dry bentonite

CREW IN BALLS, PARISH, ELIZERO

RECORD BY Elmore P. Ettrick

DATE

REMARKS

SAND PACKED - 1 SACK
H.S.A. plugged with
placed sand in open hole

DEPTH FROM	THICKNESS TO SAMPLE	DESCRIPTION	SAMPLE IDENTIFICATION NO. TYPE
0	2	SAND & STONES, grey	AF
2	3	Sand & Stones, black (18" recovery)	AF
3	5	4" sand & cinders, medium, black	BW23A SS
	8"	sand, fine, black	
	6"	sand, fine, brownish yellow, compact	
5	7	(22" recovery)	SS
6	6"	sand, fine, brown	
1	16"	clay, brown, silty, stiff	

PLUGGING AND ABANDONMENT METHOD

DATE
CREW
EQUIPMENT

ENVIRONMENTAL SET. 666 DIVISION
GROUNDWATER INVESTIGATION UNIT

TEST WELL RECORD

WELL NO.

BW 25

PERMIT NO.
914-812-48

PROJECT: BASF WYANDOTTE

LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

RANGE

T3S

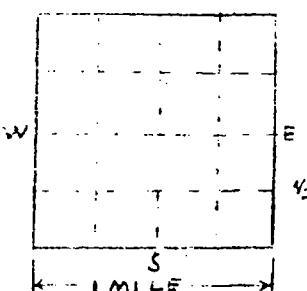
N 1/2

R 11E

LOCATION IN SECTION
[MARK WITH "X"]

SKETCH MAP OF LOCATION [NO SCALE]

N



SEE SITE MAP

N ↑

WELL DEPTH (COMPLETED) DATE OF COMPLETION

8.2 6-23-81

DRILLING METHOD(S) DEPTH(S)

HSA

CASING DIAMETER LENGTH HEIGHT
2 IN 9 FT. ABOVE SURFACE
IN. FT. TYPE
WEIGHT

SCREEN: SS WW DIAM. 2"

SLOT/GAUGE 7 LENGTH 2'

SET BETWEEN 6.2 FT. AND 8.2 FT.

WATER LEVELS
FIRST NOTED AT 6-29-81 FT BELOW SURFACE
AFTER COMPLETION 5.02 FT BELOW
SURFACE OR CASING TOPSURFACE ELEVATION 6 P.D. 582.9 585.79
SEALING METHOD 6" powdered bentoniteCREW INGALLS, PARISH, SGT 21
RECORD BY Elmore S. ElgrotteDATE
REMARKS

Sand packed - 1 sack

DEPTH FROM	DEPTH TO	DESCRIPTION	SAMPLE IDENTIFICATION NO.	TYPE
0	8"	Sand, clay & stones black		AF
8"	3'	Sand, clay & stones brown		AF
3	5	(14" recovery)		
		Stones & clayey material	SW25A	SS
		grey to white		
5	7	(16" recovery)		SS
		CLAY, sand and stones grey with 1" layer of sand		
		and clay, brown		
7	9	(16" recovery)		SS
		4" Sand & clay, brown		
		2" cinders, clayey, black		
		10" Clay, brown, stiff dry in bottom		

PLUGGING AND ABANDONMENT METHOD

DATE
CREW
RECORD BY

GROUNDWATER INVESTIGATION UNIT
TEST WELL RECORD

PROJECT: BASF WYANDOTTE

WELL NO.
BW 27

PERMIT NO.
914-812-482

LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

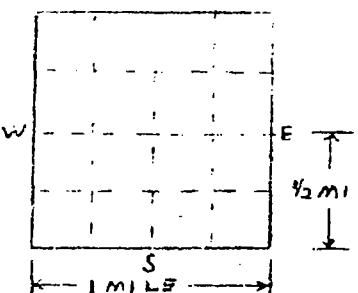
RANGE

T 3 S

M 11 E

LOCATION IN SECTION
[MARK WITH "X"]

N



SKETCH MAP OF LOCATION [NO SCALE]

SEE SITE MAP

N

PROPERTY OWNER BASF WYANDOTTE
ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

10 ft.

6-23-81

DRILLING METHOD(S) DEPTH(S)

HSA

14

CASING DIAMETER

2 IN

LENGTH
11' 3"

HEIGHT
13.2 FT

IN.

FT.

TYPE GALV
WEIGHT

SCREEN TYPE

SS

DIA. 2"

SLOT/GAUGE

7-10

LENGTH 2'

SET BETWEEN

8

FT. AND 10 FT.

WATER LEVELS

FIRST NOTED AT ~~6-29-81~~ FT BELOW SURFACE
6-29-81 AFTER COMPLETION 9.66 FT BELOW SURFACE OR CASING TOP *

SURFACE ELEVATION

6RD 583.4

SEALING METHOD

20 lbs volclay pellets

CREW IN ALLEYS, PARISH, ELTZER

RECORD BY Elmer E. Elzroth

DATE

REMARKS

sand packed - 2½ sacks

* Strongly varved ~~but~~ but with 10° dip, stiff

DEPTH FROM TO	THICKNESS OR STATION	DESCRIPTION	SAMPLE IDENTIFICATION NO. TYPE
0. 4		Clay, Sand, ^{1/2} Stones, brown (16" recovery)	A F
4 6.5		16" clayey material with gravel, white to gray	BW27A SS
6.5 8.5		(12° recovery - refusal at 8") 1" clay & sand, black 11" clay, brown, stiff	SS
8.5 11.5		(16" recovery - top 1' difficult driving) 7" clay & angular stones, very compact, gray ½". As Above, brown	BW27B SS
		2" clayey material, light tan 1". stone	
		1". Sand & stone, black	
		1". Sand & gravel, brown	
		3" clayey material, light tan (20" recovery)	
11.5 14		2" clay, light tan silty 8" clay, light brown, silty, stiff, fractures 4" sand, fine, light brown 6" clay, light brown *	SS

PLUGGING AND ABANDONMENT METHOD

DATE
CREW
RECORD BY

GROUNDWATER INVESTIGATION UNIT

TEST WELL RECORD

WELL NO.

BLD 30

LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

LOCATION IN SECTION
[MARK WITH "X"]

N

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

RANGE

4

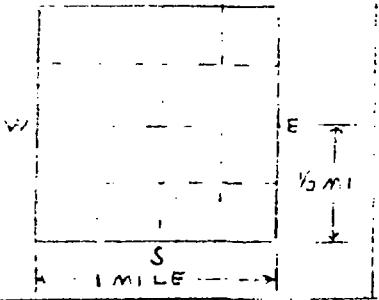
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4

SKETCH MAP OF LOCATION [NO SKETCH]

SEE SITE MAP

N



b-2-81

DEPTH(S)

PROPERTY OWNER

BASF WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

DRILLING METHOD(S)

HSA

HEIGHT
ABOVE SURFACECASING:
DIAMETER

LENGTH

NONE

FT

IN

FT.

TYPE
WEIGHT

SCREEN:

TYPE

NONE DIAM.

SLOT/GALVE

LENGTH

SET BETWEEN _____ FT. AND _____ FT.

WATER LEVELS
FIRST NOTED AT _____ FT BELOW SURFACEAFTER COMPLETION _____ FT BELOW
SURFACE OR CASING TOP

SURFACE ELEVATION

SEALING METHOD

AF

SS

SS

SS

CREW INVALS - PARISH - ELIZABETH

RECORD BY *Elmore E. Elliott*
DATE
REMARKS

CEP#	DEPTH FT. TO STATION	DESCRIPTION	SAMPLE	
			IDENT. CAPTION NO.	
0	6	LS, fines & stones, grey		
7 1/2	8 1/2	8" LS(?) fines, white, hard	AF	
		8" "Cinders" black	SS	
9	11	16" "Cinders" black	SS	
F 11	13	Sand, fine & silt	SS	
	5	dark brown to brown		
14	16	Sand, fine & silt brown	SS	

PLUGGING AND ABANDONMENT METHOD

Bentonite + natural
materialDATE 6-2-81
CREW
RECORDED BY *EE* SGT. 44

CH. 1 - V. 1 - S. 1 - GROUNDWATER INVESTIGATION UNIT

EED

TEST WELL RECORD

PW 31

PROJECT: BASE LYANDOTTE

FORT NO.
914-812-482LOCATION
COUNTY

LYDNEY

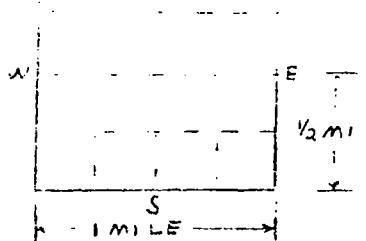
STREET ADDRESS AND CITY OF WELL LOCATION

LOCATION IN SECTION
MAPS WITH "X"

N

SKETCH MAP OF LOCATION NO SCALE

SEE SITE MAP

TOWNSHIP NAME
SECTION NO.

FRACTION

TOWN

RANGE

T35 N. R11E

PROPERTY OWNER
ADDRESS

BASE LYANDOTTE

WELL DEPTH (COMPLETED) DATE OF COMPLETION

6-2-81

DRILLING METHOD(S) DEPTH(S)

HSP

10

CASING DIAMETER LENGTH

HEAVY REINFORCED SURFACE FT

ADIVE FT
IN FT.TYPE
WEIGHT

SCREEN: TYPE DIAM.

SLOT/SIZE: NONE LENGTH

SET BETWEEN FT. AND FT.

WATER LEVELS FIRST NOTED AT FT BELOW SURFACE

AFTER COMPLETION FT BELOW SURFACE AT TOP OF CASING

SURFACE ELEVATION

SEALING METHOD

SS:

CREW IN-HALLS PARISH SLOTHROP

RECORD BY Elmore E. Elmore

DATE

REMARKS

PLUGGING AND ABANDONMENT METHOD

1/2 sack dry bentonite
+ natural materialDATE 6-2-81
CREW
RECORD BY Elmore E. Elmore

EED

N.D. STATE OF THE S.D.
PROVINCIAL SURVEYOR'S OFFICE
TEST WELL REC RD

BW32.

PROJECT: BASF WYANDOTTE

PAGE NO.
914-812-48A

LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OR WELL LOCATION

TOWNSHIP NAME

FRACTION

SECTION NO

TOWN

RANGE

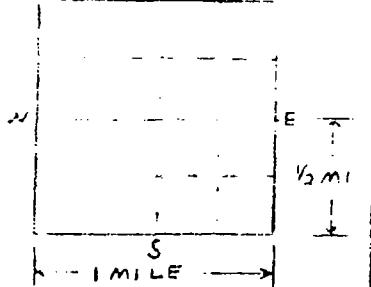
14 4 4

T35 N.S. R11 E

LOCATION IN SECTION
[MARK WITH "X"]SKETCH MAP OF LOCATION (NO SALT)
ABOUT 100' SW OF RTY
OF BW33PROPERTY OWNER
BASF WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

2 6-10-81
DRILLING METHOD(S) DEPTH(S)

Shovel

CASING: DIAMETER LENGTH HEIGHT
IN IN FT ABOVE SURFACEnone IN FT TYPE
FT WEIGHTSCREEN: TYPE DIAM.
SLOT/GAUGE none LENGTH

SET BETWEEN FT. AND FT.

WATER LEVELS FIRST NOTE AT none BELOW SURFACE

AFTER COMPLETION FT BELOW
SURFACE (CREASING TOP)

SURFACE ELEVATION

SCALING METHOD

CREW Ingalls, Parish Elzneroth

RECORD BY Elmore E. Elzneroth
DATE
REMARKS

DEPTH FROM BED	THICKNESS OF STRATUM	DESCRIPTION	SAMPLE IDENTIFICATION NO.	TYPE
C 2		WOOD, GLOVES, "Insulation" material		

PLUGGING AND ABANDONMENT METHOD
Backfilled with
excavated materialDATE
CREW
ESCRIBE PV

IV

EIT

ENVIRONMENTAL SERVICES DIVISION
GROUNDWATER INVESTIGATION UNIT
TEST WELL RECORD

EED

WELL NO.
BW 33

PROJECT: BASF WYANDOTTE

PERMIT NO.
914-812-4

LOCATION
COUNTY

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

RANGE

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

1/4 4 4

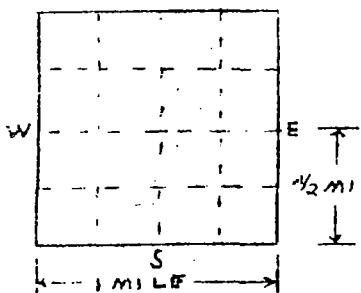
T3S N16 R11E

LOCATION IN SECTION
(MARK WITH "X")

SKETCH MAP OF LOCATION [NO SCALE]

SEE SITE MAP

N



WELL DEPTH (COMPLETED) DATE OF COMPLETION

12

DRILLING METHOD(S) DEPTH(S)

HGA

CASTING'S DIAMETER	LENGTH	H.
<u>none</u>	<u>1 AB</u>	<u>FT.</u>
<u>IN.</u>	<u>1 FT</u>	<u>INCH</u>
<u>IN.</u>	<u>PT.</u>	<u>WEAR</u>

SCREEN:

TYPE none DIAM.
SLOT/GAUZE LENGTH

SET BETWEEN FT. AND FT.

WATER LEVELS
FIRST NOTED AT FT BELOW SURFACE

AFTER COMPLETION FT BELOW SURFACE OR CASING TOP

SURFACE ELEVATION

SEALING METHOD

CREW IN ALLS, PARISH, QLT2

RECORD BY Elmore E. Etter

DATE

REMARKS

PLUGGING AND ABANDONMENT METHOD

Bentonite + nat. mate

DATE

CREW

RECORD BY Elmore E. Etter

TEST WELL RECORD

WELL NO.
BW 34

PROJECT: BASF WYANDOTTE

JOB NO.
914-812-453

LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

SECTION NO.

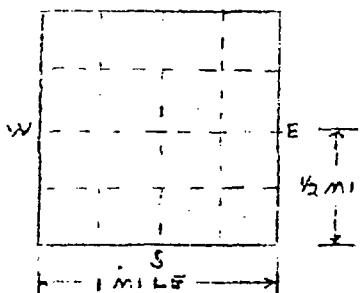
TOWN

RANGE

1/4 N S E

LOCATION IN SECTION
(MARK WITH "X")

N



SKETCH MAP OF LOCATION (NO SCALE)

SEE SITE MAP

N

WELL DEPTH (COMPLETED) DATE OF COMPLETION
1D 6-17-81
DRILLING METHOD(S) DEPTH(S)

HSA

CASING:

DIAMETER:

NAME:

IN.

LENGTH:

FT.

FT.

TYPE:

WEIGHT:

10

HEIGHT:

ABOVE SURFACE FT.

SCREEN:

TYPE:

NONE DIAM.

SLOT/GAUGE LENGTH

SET BETWEEN FT. AND FT.

WATER LEVELS

FIRST NOTED AT

FT BELOW SURFACE

AFTER COMPLETION

FT BELOW SURFACE

OR CASING TOP

SURFACE ELEVATION

6RD 574.7

SCALING METHOD

CREW INGALLS, PARISH, ELZER

RECORD BY Elmer E. Elzert

DATE

REMARKS

DEPTH FROM	DEPTH TO	DESCRIPTION	SAMPLE IDENTIFICATION NO.	TYPE
0	2.5	Stone, cinders and sand, grey (12" recovery)	AF	
2.5	5	4" cinders, black, "oily".	SS	
		2" sand, fine, silty, brown		
		6" cinders, grey to black strong odor similar to BW 18		
5	7.5	(8" recovery)		
		9.5 cinders, black, and sand, fine, brown to grey, odor	SS	
7.5	10	(16" recovery)		
		8" cindery, black, one rubber fragment	BW18A	SS
		0.5 6" sand, fine, dark brown to brown, layered		

PLUGGING AND ABANDONMENT METHOD

BACKFILLED WITH
NATURAL MATERIAL

DATE 6-17-81

CREW

RECORD BY SP ... OATH, L.

GROUNDRWATER INVESTIGATION UNIT

TEST WELL RECORD

NO.
BW 35

PROJECT: BASF WYANDOTTE

PERMIT NO.
914-812-482LOCATION
COUNTY

WYANDOTTE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

SECTION NO.

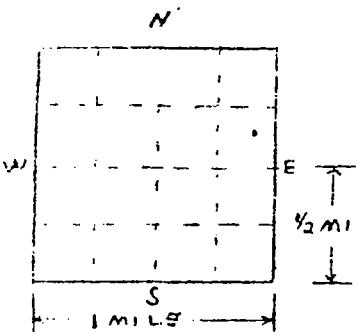
TOWN

RANGE

T 3 S NS R 11 E

LOCATION IN SECTION
[MARK WITH "X"]

SKETCH MAP OF LOCATION [NO SCALE]



SEE SITE MAP

4' EAST OF BW 25

DEPTH FROM TO	THICKNESS OF SEGM.	DESCRIPTION	SAMPLE IDENTIFICATION	
			NO.	TYPE
0	12	Sand & Clay	AF	
12	13 ³	HEAVY RESISTANCE AT 12ft	AF	
13 ³	14	Clay, gravel, soupy	AF	

PROPERTY OWNER BASF WYANDOTTE
ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

6-23-81

DRILLING METHOD(S) DEPTH(S)

HSA

CASING
DIAMETER LENGTH
IN NODINE FT
IN PT. FT TYPE
WEIGHTSCREEN:
TYPE NONE DIAM.
SLOT/GAUGE LENGTH

SET BETWEEN FT. AND FT.

WATER LEVELS
FIRST NOTED AT FT BELOW SURFACEAFTER COMPLETION FT BELOW
SURFACE OR CASING TOP

SURFACE ELEVATION

GRD 582.8
SEALING METHOD

NATURAL MATERIALS

CREW IN WALLS, PARISH, ELT-200

RECORD BY Elmore E. Elstroth

DATE

REMARKS

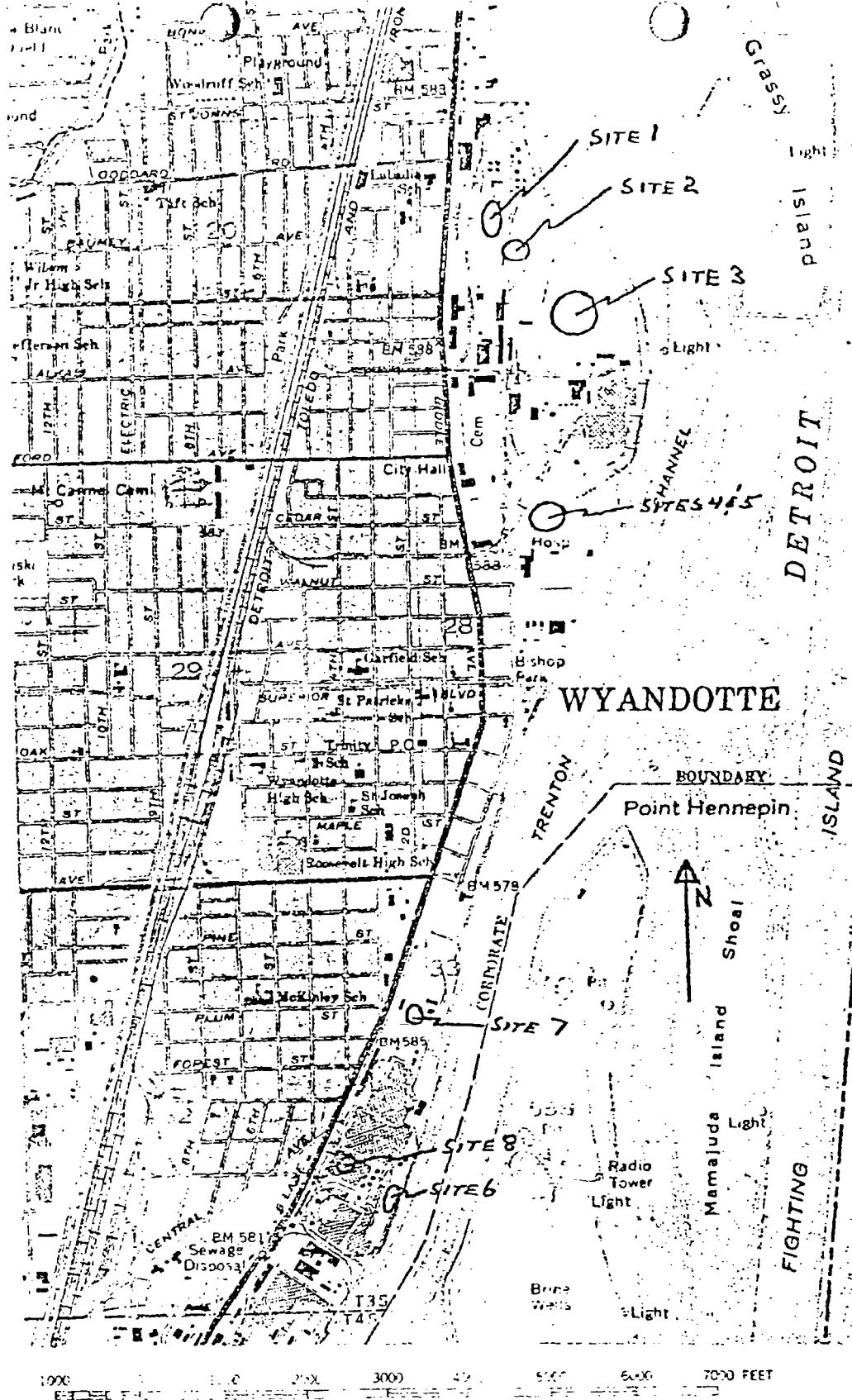
PLUGGING AND ABANDONMENT METHOD

NATURAL MATERIALS

DATE 6-23-81

CREW

RECORD BY Elmore E. Elstroth



BASF Wyandotte Corporation
Site Locations

